

CLAIMS

1. A method for manufacturing packages, comprising providing a tubular first package part (11, 82) of a sheet (13) of thermoplastic coated packaging material including at least one layer (16) of an induction heat-able material, the first package part having a sealed first joint (23, 89, 90) between two mutually opposing edge sections (21, 22) of the sheet,
- joining together the first package part and a second package part (12, 81), a second joint (26, 83) being formed between the first and the second package part, the first and the second joint intersecting each other, characterized in further comprising
- arranging induction heating means (43, 73, 88) including at least two conductors (44 and 45, 74 and 75, 91 and 92) extending along each other, so that the conductors extend along the second joint, and
- sealing the second joint by feeding an inducing current through the induction heating means, the inducing current being conducted by the conductors along the second joint in opposite directions (62, 63 and 101, 102) in said at least two conductors.
2. A method according to claim 1, wherein arranging the induction heating means (43, 88) comprises providing the conductors (44 and 45, 91 and 92) on the outside of the first package part (11, 82).
3. A method according to claim 1, wherein arranging the induction heating means (73) comprises providing the conductors (74, 75) on the inside of the first package part (11).
4. A method according to any one of claims 1-3, further comprising applying a compressive load on the second joint (26, 83) during the sealing of the same.
5. A method according to any one of the preceding claims, wherein sealing the second joint (26, 83) comprises inducing a heating current in said layer (16) of

the induction heatable material, said layer comprising a metal foil.

6. A method according to any one of the preceding claims, wherein the first joint (23, 89, 90) of the first
5 package part (11, 82) is formed between said two edge sections (21, 22) being overlapping.

7. A method according to any one of the preceding claims, wherein joining together the first and the second
10 package part (11, 12) comprises positioning the first and second package parts so that the second package part protrudes from an open end (25) of the tubular first package part, and wherein arranging the induction heating means (43, 73) comprises providing the conductors (44, 45 and 74, 75) circumferentially along the first package part.

15 8. A method according to any one of claims 1-6, wherein joining together the first and the second package part (82, 81) comprises positioning the first and second package parts so that the second package part protrudes from an opening (85) in a wall portion of the first package part, and wherein arranging the induction heating
20 means (88) comprises providing the conductors (91, 92) circumferentially around the opening.

9. A method according to claim 7 or 8, wherein joining
25 together the first and the second package part comprises slipping the first package part over the second package part.

10. A device for manufacturing packages, comprising
means for providing a tubular first package part
(11, 82) of a sheet (13) of thermoplastic coated pack-
30 aging material including at least one layer (16) of an induction heatable material, the first package part having a sealed first joint (23, 89, 90) between two mutually opposing edge sections (21, 22) of the sheet,
means for joining together the first package part
35 and a second package part (12, 81), a second joint (26, 83) being formed between the first and the second package

part, the first and the second joint intersecting each other,

current supply means (46) for feeding an inducing current, c h a r a c t e r i z e d in that it further
5 comprises

induction heating means (43, 73, 88) for sealing the second joint, the induction heating means being connected to the current supply means and including at least two conductors (44 and 45, 74 and 75, 91 and 92) extending
10 along each other, which are arranged to extend along the second joint and conduct the inducing current along the second joint in opposite directions (62, 63 and 101, 102) in said at least two conductors.

11. A device for manufacturing packages, comprising
15 induction heating means (43, 73, 88) including at least two conductors (44 and 45, 74 and 75, 91 and 92) extending along each other and being arranged to be connected to a current supply means (46), c h a r a c t e r i z e d in that the conductors are arranged to conduct an
20 inducing current in opposite directions (62, 63 and 101, 102).

12. A device according to claim 11, wherein the induction heating means (43, 73, 88) is arranged to seal a second joint (26, 83) formed between a tubular first
25 package part (11, 82) of a sheet (13) of thermoplastic coated packaging material including at least one layer (16) of an induction heatable material, the first package part having a sealed first joint (23, 89, 90) between two mutually opposing edge sections (21, 22) of the sheet,
30 and a second package part (12, 81), the first and the second joint intersecting each other.

13. A device according to claim 10 or 12, wherein the conductors (44 and 45, 74 and 75, 91 and 92) are arranged to be provided on the outside of the first
35 package part (11, 82).

14. A device according to claim 13, wherein the induction heating means (43) is formed with a hole or

recess (56) for receiving portions of the first and second package parts forming the second joint (26), the conductors (44, 45) being arranged along a wall (57) enclosing the hole or recess.

5 15. A device according to claim 14, wherein a circumference of the hole or recess (56) is essentially equal to an outer circumference of the package parts (11, 12) along the second joint (26), the wall (57) enclosing the hole or recess exerting a compressive load on the
10 second joint during the sealing of the same.

16. A device according to claim 14, wherein the hole or recess (56) is frusto conical for receiving said second package part being tapered in a direction (61'') from the second joint (26), a smallest circumference of
15 the hole or recess being smaller than an outer circumference of the package parts (11, 12) along the second joint, the wall (57) enclosing the hole or recess exerting a compressive load on the second joint during the sealing of the same.

20 17. A device according to any one of claims 13-16, wherein an inner circumference of each of the conductors (44, 45) is essentially equal to an outer circumference of the package parts (11, 12) along the second joint (26).

25 18. A device according to claim 13, wherein the induction heating means (88) is formed with a recess or hole (95) for receiving at least a portion of the second package part (81), the conductors (91, 92) being arranged in one and the same plane, one of them enclosing another,
30 and surrounding the recess or hole.

19. A device according to claim 10 or 12, wherein the conductors (74, 75) are arranged to be provided on the inside of the first package part (11).

35 20. A device according to claim 19, wherein the induction heating means (73) includes a support element (77) arranged to be surrounded by portions of the first and second package parts (11, 12) forming the second

joint (26), the conductors (74, 75) being arranged along a wall (78) on, and enclosing, the support element, the wall exerting a compressive load on the second joint during the sealing of the same.

5 21. A device according to claim 19 or 20, wherein an outer circumference of each of the conductors (74, 75) is essentially equal to an inner circumference of the package parts (11, 12) along the second joint (26).

10 22. A device according to any one of claims 10-21, wherein the conductors (44 and 45, 74 and 75, 91 and 92) have essentially uniform cross-sections.

23. A device according to any one of claims 10-17 or 19-22, wherein the conductors have essentially the same dimensions (44 and 45, 74 and 75).

15 24. A device according to any one of claims 10 or 12-23, wherein each of the conductors (44 and 45, 74 and 75, 91 and 92) forms a circumferential and incomplete current path along the second joint (26, 83).

20 25. A device according to any one of claims 10-24, wherein the conductors (44 and 45, 74 and 75, 91 and 92) are connected to each other at a first end and to the current supply means (46) at a second end.

25 26. A device according to claim 25, wherein each of the conductors (44 and 45, 74 and 75, 91 and 92) has such a shape that the first end is arranged in the vicinity of the second end.

30 27. A device according to any one of claims 10 or 12-26, wherein the induction heating means (43, 73, 88) is arranged to induce a heating current in said layer (16) of the induction heatable material, said layer comprising a metal foil.

35 28. A device according to any one of claims 10 or 12-27, wherein the first joint (23, 89, 90) of the first package part (12, 81) is formed between said two edge sections (21, 22) being overlapping.

29. A device according to claim 10, wherein the means for joining together the first and the second pack-

age part (11, 12) is arranged to position the first and second package parts so that the second package part protrudes from an open end (25) of the tubular first package part, and wherein the conductors (44 and 45, 74 and 75) are arranged to be provided circumferentially along the first package part.

30. A device according to claim 10, wherein the means for joining together the first and the second package part is arranged to position the first and second package parts (82, 81) so that the second package part protrudes from an opening (95) in a wall portion of the first package part, and wherein the conductors (91 and 92) are arranged to be provided circumferentially around the opening.

31. A device according to claim 29 or 30, wherein the means for joining the first and the second package part (11 and 12, 82 and 81) is arranged to slip the first package part over the second package part.